

No. 846,579.

PATENTED MAR. 12, 1907.

O. LEE.

COOKING STOVE.

APPLICATION FILED APR. 19, 1906.

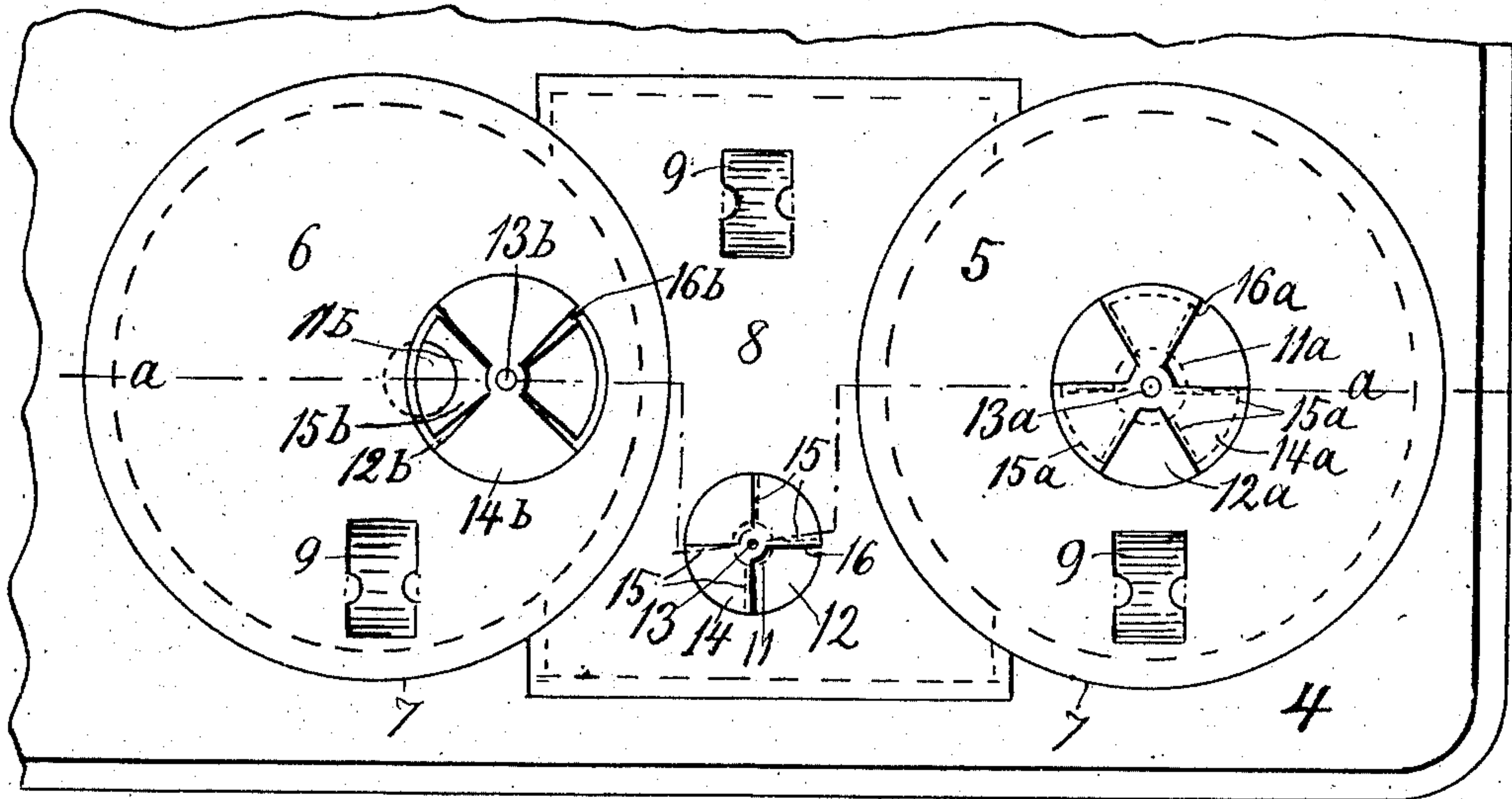


FIG. 1.

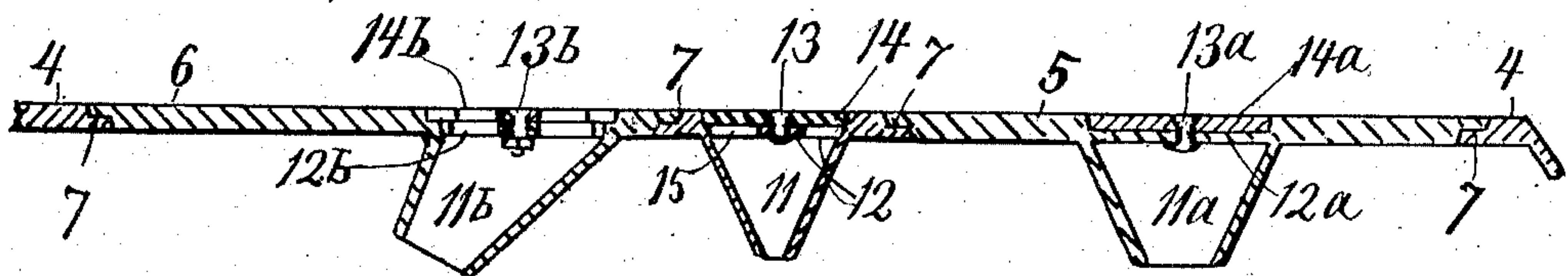


FIG. 2.

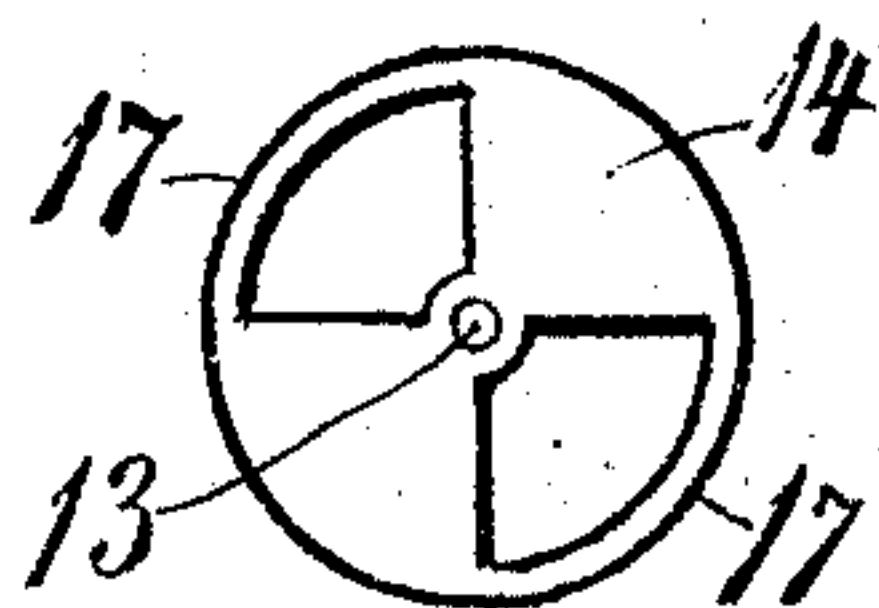


FIG. 3.

WITNESSES:

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COOKING-STOVE.

No. 846,579.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed April 19, 1906. Serial No. 312,593.

To all whom it may concern:

Be it known that I, OLUF LEE, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Cooking-Stoves; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in cooking-stoves; and the objects are, first, to provide a cooking-stove with means whereby a strong draft of air may be applied to the top of the fire, the benefit of which will hereinafter be explained; second, to heat the air thus applied to the fire; third, to provide means whereby such draft may be applied to different parts of the fire and given different directions; fourth, to provide for such draft regardless of the stove covers or lids when those are removed and kettles cover the holes, and also to provide for such draft through the covers, so that the invention may be easily applied also to stoves already in use. These and other objects I attain by the novel construction and arrangements of parts illustrated in the accompanying drawing, in which—

Figure 1 is a top view of a portion of a cooking-stove with my invention applied thereto. Fig. 2 is a sectional view on the line *a a* in Fig. 1. Fig. 3 is a top view of a modified form of the several dampers shown in the stove-lids in the other figures.

Referring to the drawing by reference-numerals, 4 designates the top of a cooking-stove.

5 and 6 are the regular covers or lids, resting in recesses 7 in the top plate 4 and in the bridge-lid 8, which latter is removed only when a washboiler is to occupy the entire opening after lids 5, 6, and 8 have been removed.

9 is the recess in which the lifter (not shown) is placed in handling the lids.

The lid 8 is provided near one end with a downwardly-pointing funnel 11, having in its upper part a bridge 12, to which is pivoted centrally a rotary damper 14, whose top comes flush with the top of the stove. In Fig. 1 this damper is turned with one of its

wings against a stop 16, in which position it covers the draft-openings 15 of the funnel.

The description just given of the funnel and damper in lid 8 answers also for lids 5 and 6, where the numerals are given the exponents "a" and "b," respectively. In the lid 5 the damper is closed and has three wings, while in lid 6 it is open and has only two wings. The number of wings, as well as the possible use of webs like 14 in Fig. 3 between the wings, are matters of preference.

In the lid 5 the funnel is in the middle of the lid, while in lid 6 it is near the edge of the lid and slants with its lower end toward the middle of the lid.

All of the funnels are so large at the top and reduced gradually to such a small point or spout and extended so far down that a substantial blast or draft is sent down into the fire into which the funnel reaches if the fire-pot is fairly filled, and if the fire is hot enough to heat the funnel it is evident that the funnel will heat the air passing down through it, and thus have an increased effect on the fire.

In the use of the invention if the two holes after lids 5 and 6 are covered by kettles the funnel 11 can still be used and may be placed in two positions; but more often only one of the covers 5 and 6 is removed, and sometimes none of them, as there are other lids to remove in case of cooking and no lid to be removed when only the oven of the stove is to be used. For a direct downdraft into the fire the damper 12^a is used with the lid 5 applied to the hole where the draft is desired, and if an incline downdraft is desired the lid with the inclined funnel 11^b is applied. In some cases two or all three of the funnels may be used at one time.

The various uses of these draft devices depend on the circumstances—whether it is only desired to increase the heat of the stove by applying heated air-drafts, or if a new-built fire is lit from the top and it is desired to force the fire speedily downward into the fuel, or if the fire is inclined to burn only in one end or part of the fire-pot when the inclined draft is applied, or if the fire is nearly gone out, having but a little life at the top and the fire-pot is so full of ashes below that no upward draft can be had without stirring down the ashes, which act will in nearly all such cases cause the few live coals to sink into the ashes and be smothered, while a little fresh fuel on the top of them and a

draft from either funnel 11^a or 11^b would speedily make a fire strong enough to stand the shaking down of the ashes and at the same time do some heating. There are also
5 instances in which the cold air passing upward through the fire-pot of a stove seems to practically keep the fire away from the lower part of the fuel, which is thus a mere obstruction to the draft, and the only way to cause
10 the fire to ignite all the fuel is to apply one or more of my downdraft-funnels.

I am aware that prior to my invention stove-lids have been made with a great series of small perforations, as in the United States
15 Patent No. 42,968, and also with a single concave damper, as in United States Patent No. 67,603, either of which simply let in air above the fire to cool the top of the stove and
20 then pass up the stovepipe; but I am not aware that any one ever invented a stove

cover or lid with a horn or funnel extending down to or into the fire to thus concentrate the air into a strong draft or blast for the purposes I have described.

Having thus described my invention, what 25 I claim, and desire to secure by Letters Patent, is—

A cooking-stove having one or more of its lids provided with a funnel-shaped draft-tube extending with its small end downward 30 into the fire-space, and a damper in the upper end of the funnel, said tube standing at an incline.

In testimony whereof I affix my signature in presence of two witnesses.

OLUF LEE.

Witnesses:

P. P. GIBBS,
F. W. PAUL.